

Exploring Inter-options

Interoperability issues have your radiologists fixated on technology rather than treatment? These tips from a been-there, tried-that IT director can boost connectivity and staff productivity.

Thuan Nguyen

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integration initiatives

As the IT director of a large regional radiology practice, I dread calls from struggling radiologists—specifically, those who must toggle between workstations to remain on top of stat cases or who can't access priors and patient information because information systems can't communicate. These calls mean our radiologists are focused on technology issues, not on reading cases.

When evaluating new health IT or system components, I'm not overly concerned with whether a radiology information system (RIS) or PACS or archive dictation software will work. Rather, I worry about whether it will link or communicate with existing systems. This concern probably causes many other medical IT directors and CIOs to lose sleep as well.

Supporting multiple sites in the Seattle/Puget Sound area with 36 radiologists, Seattle Radiologists has served patients in the Pacific Northwest for more than 45 years. Despite our investment in state-of-the-art equipment and world-class radiologists, our productivity and ability to expand our referral base are often hampered by the inefficiencies inherent in disparate health care IT systems. The lessons we learned can help others improve workflow and lay a cost-effective foundation.

First, with cases originating from multiple sites and PACS, our radiologists were forced to use a series of workstations to read exams and pull priors. We tried to reduce the need to jump from workstation to workstation by pushing cases from other systems to our PACS. While this strategy yielded benefits, it also required a radiology assistant (RA) to review the cases and pull priors and associated documentation to make them available on the PACS. Factor in attendant network bandwidth and storage issues, and this solution proved ineffective in the long term.

Practices are looking to voice recognition (VR) and dictation software to accelerate the reporting process. In an early attempt to incorporate VR tools, we installed two separate PACS on one workstation pointing to separate servers. However, since they used the same application programming interface (API), we couldn't launch both systems at once. Additionally, with different formats and templates, we continued to experience conflicts across the network. As a result, while exam review and dictation of cases are almost always completed in a matter of hours, there were instances where delays were caused by the need to get a signature before delivering a report to the referring physician.

We also investigated HL7 interface engines to help make patient demographics and scheduling available across the network. We found this to be easy to work with and an effective tool to help create and maintain interfaces between systems on the enterprise. It also streamlined the interface process and made it more cost-effective when we enlisted an interoperability solutions provider to help with a long-term, scalable solution.

Our goal was to create a single worklist common to all connected users regardless of location or PACS. The unified virtual worklist is designed to enable physicians to read from anywhere, automatically prefetch prior exams and patient information, and transmit images and cases between sites for consults or workload balancing.

Clearly, every radiology practice wants to achieve a single worklist where all important information can be found in one place. This arrangement eliminates what many of my radiologists call the "Easter egg hunt," where prior reports and images are stored in different places, on different systems and in some cases, in different formats.

Compound this problem with the large number of images that are sent to the PACS as "unspecified." This situation requires significant human intervention: We have four full-time RAs who manually create orders in the RIS. This costly and repetitive process demands automation. For the foreseeable future, a percentage of images and patient information likely won't be on the network. However, with continuous pressure to do more with less, imagine how much more productive we could be—or how many clients we could add—if we could shift some of these full-time equivalent units (FTEs) to tasks that support better care.

When evaluating a comprehensive interoperability solution for Seattle Radiologists, we looked first and foremost at its potential results. We selected a solution that showed consistent improvements in workflow, diagnostic turnaround times and productivity. We expect to improve productivity by 20 to 30 percent and significantly reduce radiologist frustration—enabling our radiologists to focus on exams, not technology.

IT groups, administrators and clinicians at practices nationwide are working to solve these problems—but arriving at a solution is a labor-intensive process. While sites can take steps to improve connectivity and workflow, most ultimately will work with an interoperability solutions provider to implement a comprehensive, enterprise-wide solution. That means fewer of those dreaded phone calls—and more nights of peaceful slumber—for IT directors and CIOs.

Thuan Nguyen is the IT director for Seattle Radiologists.